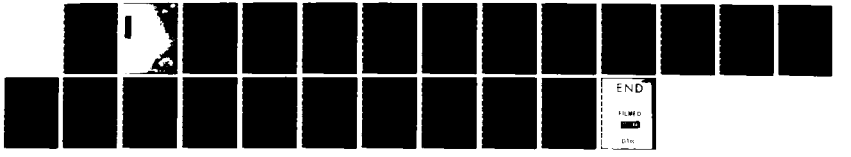
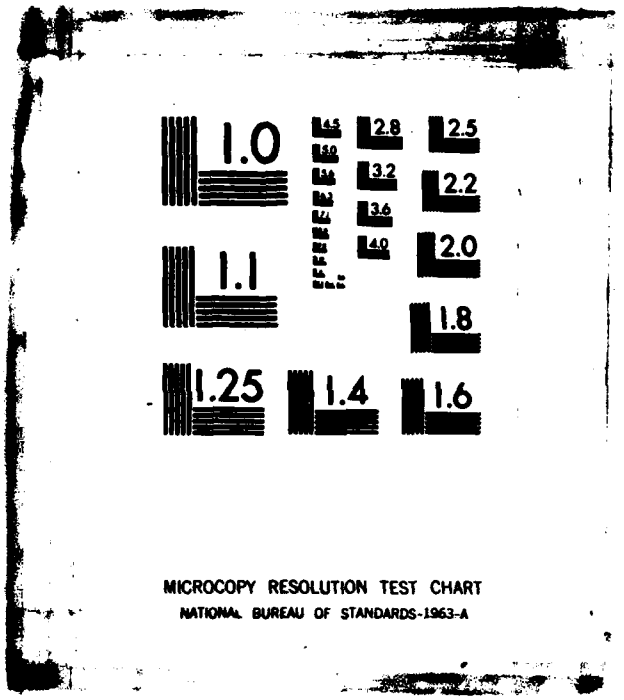
AD-A137 299 MISSILE NUMBER 330 346 351 353 357 ROUND NUMBER 547/DL-61 THRU 551/DL-65(U) ARMY ELECTRONICS RESEARCH AND DEVELOPMENT COMMAND WSMR NM ATM.. D C KELLER

1/1

UNCLASSIFIED DEC 83 ERADCOM/ASL-DR-1332 F/G 4/2 NL




1.0
1.1
1.25
1.4
1.6
2.8
3.2
3.6
4.0
2.5
2.2
2.0
1.8
MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER DR 1332	2. GOVT ACCESSION NO. AD A137299	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) 19319A MLRS Missile Number 330, 346, 351, 353, 357 Round Number 547/DL-61 Thru 551/DL-65		5. TYPE OF REPORT & PERIOD COVERED 6. PERFORMING ORG. REPORT NUMBER
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18. SUPPLEMENTARY NOTES

19. KEY WORDS (Continue on reverse side if necessary and identify by block number)

20. ABSTRACT (Continue on reverse side if necessary and identify by block number)

Meteorological data gathered for the launching of the 19319A MLRS, Missile Number 330,346, 351, 353, 357, Round Number 547/DL-61 Thru 551/DL-65 are presented in tabular form.

DD FORM 1 JAN 73 1473 EDITION OF 1 NOV 65 IS OBSOLETE

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

CONTENTS

INTRODUCTION

19319A MLRS, Missile Numbers 330, 346, 351, 353, and 357, Round Numbers 547/DL-61 thru 551/DL-65, were launched from LC-33, White Sands Missile Range (WSMR), New Mexico, at 1004:28, 1004:33, 1004:37, 1004:42, and 1004:46 MST, 10 Dec 83. The scheduled launch times were 1000 MST with a 4.5 second separation.

DISCUSSION

Meteorological data were recorded and reduced by the White Sands Meteorological Team, Atmospheric Sciences Laboratory (ASL), White Sands Missile Range, New Mexico. The data were obtained by the following methods:

1. Observations

a. Surface

(1) Standard surface observations to include pressure, temperature (°C), relative humidity, dew point (°C), density (gm/m^3), wind direction and speed, and cloud cover were made at the LC-33 Met Site at T-0 minutes.

(2) Anemometer data were provided from existing tower-mounted anemometers at LC-33. Monitor of wind speed and direction from one anemometer was also provided in the launch control room.

b. Upper Air

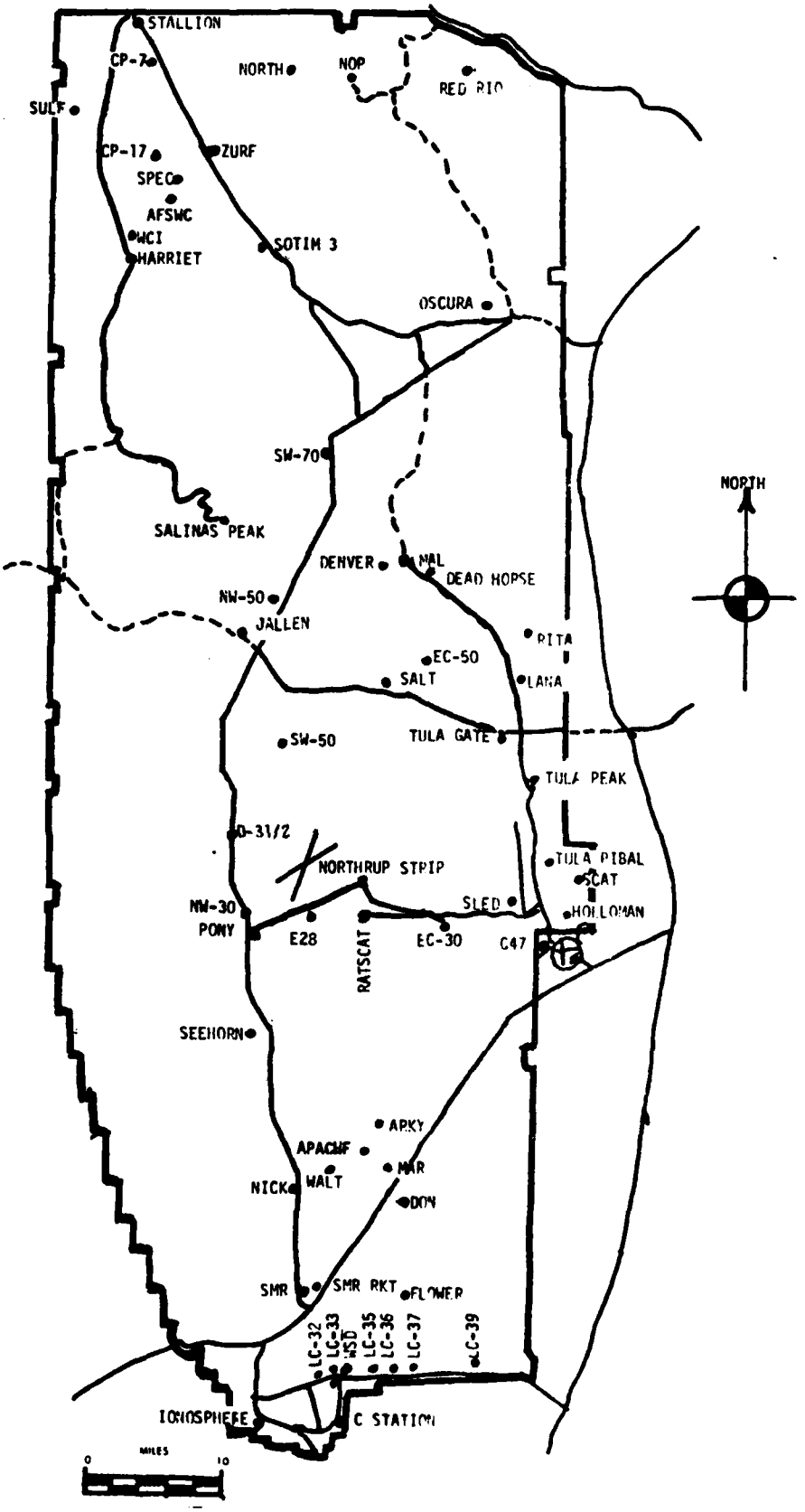
(1) Low level wind data were obtained from pilot-balloon observations at:

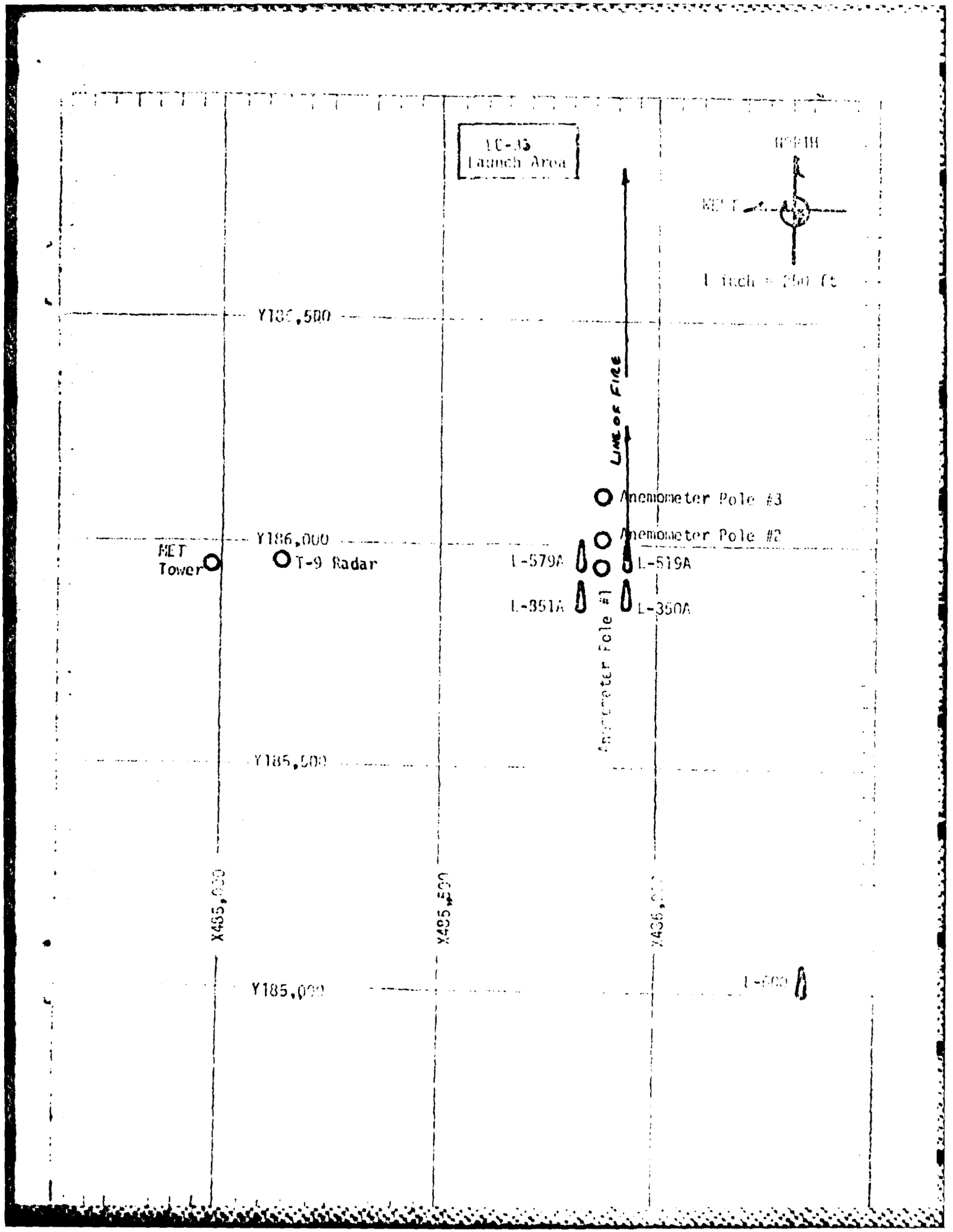
SITE AND ALTITUDE
LC-33 2 km
DON 2 km

(2) Air structure data (rawinsonde) were collected at the following Met Sites.

SITE AND TIME	
WSD	0815 MST
LC-33	0915 MST
WSD	1004 MST

WSMR METEOROLOGICAL SITES




LC-36
Launch Area
MET
1 inch = 250 ft
Y186,500
LINE OF FIRE
Anemometer Pole #3
Anemometer Pole #2
Y186,000
MET
Tower
T-9 Radar
L-579A
L-519A
L-351A
L-350A
Anemometer Pole #1
Y185,500
X485,000
X485,500
Y185,000

PROJECT SURFACE OBSERVATION

TABLE 1 STATION LC-33

DATE 10 (DAY) DEC (MONTH) 83 (YEAR) X= 484,982.73 Y= 185,957.73 H= 3995.00

TIME M S T	PRESSURE mbs	TEMPERATURE °F	TEMPERATURE °C	DEW POINT °F	DEW POINT °C	RELATIVE HUMIDITY %	DENSITY gm/m³	WIND DIRECTION degs Tn	WIND SPEED kts	WIND CHARACTER kts	VISIBILITY
1004	881.9		14.6		-3.1	29	1063.7	285	10		50

OBSTRUCTIONS TO VISIBILITY	CLOUDS 1st LAYER AMT	1st LAYER TYPE	1st LAYER HGT	2nd LAYER AMT	2nd LAYER TYPE	2nd LAYER HGT	3rd LAYER AMT	3rd LAYER TYPE	3rd LAYER HGT	REMARKS
	0	Sc	6,000							

PSYCHROMETRIC COMPUTATION

TIME: MST	1004		
DRY BULB TEMP.	14.6		
WET BULB TEMP.	6.3		
WET BULB DEPR.	8.3		
DEW POINT	-3.1		
RELATIVE HUMID.	29		

LC-33 METEOROLOGICAL TOWER
ANEMOMETER MEASURED WIND DATA

WSTM COOORDINATES X=484,982.64 Y=185,957.73 H=3983.00(BASE)

TABLE NO. 2

DATE 10 DEC 83 10:04 M S T
DAY MONTH YEAR TIME

LEVEL #1 12 FT AGL

T-TIME(SEC)	DIR(DEG)	SPEED(KTS)
T-30	303	12
T-20	306	10
T-10	278	10
T- 0(1st T)	286	10
T+10	283	10
T+20	288	09
T+30	283	08
T+40	284	08
T+50	296	11
T+60	316	09

LEVEL #2 62 FT AGL

T-TIME(SEC)	DIR(DEG)	SPEED(KTS)
T-30	284	14
T-20	295	12
T-10	288	11
T- 0(1st T)	287	12
T+10	284	12
T+20	283	10
T+30	286	10
T+40	308	12
T+50	306	10
T+60	312	10

LEVEL #3 102 FT AGL

T-TIME(SEC)	DIR(DEG)	SPEED(KTS)
T-30	285	16
T-20	282	15
T-10	285	13
T- 0(1st T)	284	13
T+10	284	12
T+20	286	10
T+30	290	10
T+40	300	13
T+50	285	11
T+60	305	11

LEVEL #4 202 FT AGL

T-TIME(SEC)	DIR(DEG)	SPEED(KTS)
T-30	283	15
T-20	280	14
T-10	290	12
T- 0(1st T)	289	12
T+10	289	10
T+20	288	12
T+30	288	15
T+40	300	15
T+50	303	11
T+60	285	12

T-TIME PILOT-BALLOON MEASURED WIND DATA

DATE 10 December 1983

SITE: LC-33
TIME: 1004 MST
WSTM COORDINATES:
X= 484,837.34
Y= 184,124.44
H= 3,975.57

LAYER MIDPOINT METERS AGL	DIRECTION DEGREES	SPEED KNOTS
SURFACE	285	10
150	286	14
210	287	15
270	288	16
330	290	17
390	289	17
500	286	18
650	281	20
800	277	21
950	279	21
1150	283	23
1350	286	21
1550	291	32
1750	295	37
2000	290	38

Data obtained from a Double Theodolite Tracked pilot-balloon observation.

SITE: DON
TIME 1004 MST
WSTM COORDINATES:
X= 511,988.37
Y= 247,396.36
H= 3,996.83

LAYER MIDPOINT METERS AGL	DIRECTION DEGREES	SPEED KNOTS
SURFACE	270	15
150	270	21
210	274	24
270	280	24
330	288	23
390	279	22
500	273	26
650	279	28
800	283	24
950	287	29
1150	295	25
1350	298	30
1550	296	32
1750	296	36
2000	298	45

Data obtained from a RAPTS T-9 radar tracked pilot-balloon observation.

AIMING AND T-TIME COMPUTER MET MESSAGE DATA
10 December 1983

WSD 0815 MST		LC-37 0915 MST		WSD 1004 MST	
METCM1324064		METCM1324063		METCM1324064	
101530122880		101630124879		101710122881	
00498006	28640880	00089004	28600879	00462006	28920881
01475029	28590870	01044005	28530868	01469013	28760871
02473054	28410844	02592005	28280842	02507017	28530845
03628001	28040804	03516013	27900802	03505022	28140806
04479031	27620757	04489031	27450752	04500022	27650758
05495045	27380711	05512050	27500709	05522037	27330712
06507048	27100668	06521053	27170666	06513050	27260669
07511050	26720627	07526058	26930626	07525059	27130629
08526055	26530588	08543074	26810587	08554064	27030590
09547076	26660552	09553076	26520551	09548076	26720554
10538084	26350517	10540088	26130516	10537078	26330520
11530085	25900485	11531097	25720483	11525076	25850487
12509084	25210438	12511090	25080437	12515076	25150440

STATION ALTITUDE 3989.00 FEET MSL
10 DEC. 83 0815 HRS MST
ASCENSION NO. 618

SIGNIFICANT LEVEL DATA
344002618
WHITE SANDS

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

TABLE 5

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT DEGREES CENTIGRADE	REL.HUM. PERCENT
886.3	3989.0	12.0	-1.9	38.0
869.9	4315.8	12.3	-5.7	28.0
850.0	4950.9	11.0	-5.5	31.0
776.9	7383.2	4.0	-6.3	47.0
764.1	7820.6	3.5	-8.5	41.0
743.0	8570.0	1.1	-9.5	45.0
717.5	9492.8	1.2	-19.8	19.0
700.0	10143.5	-.2	-22.9	16.0
686.0	10750.4	-.9	-24.2	15.0
595.6	14324.6	-9.0	-30.8	15.0
564.0	15719.4	-6.0	-29.1	14.0
534.9	17078.7	-7.6	-30.4	14.0
500.0	18790.5	-12.0	-35.3	15.0
445.0	21670.3	-20.3	-38.9	17.0
400.0	24240.7	-26.8	-43.3	19.0
362.5	26540.9	-33.4	-47.7	22.0
348.9	27427.4	-35.2	-49.2	22.0
338.0	28154.8	-35.7	-49.7	22.0
335.3	28338.9	-34.5	-49.0	21.0

UPPER AIR DATA

STATION ALTITUDE 3989.00 FEET MSL
10 DEC. 83 0815 HRS MST
ASCENSION NO. 018

34400201B
WHITE SANDS

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

TABLE 6

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
3989.0	886.3	12.0	-1.3	38.0	1073.0	658.6	280.0	6.0	1.000264
4000.0	879.9	12.0	-2.0	37.7	1072.5	658.6	280.0	6.0	1.000264
4500.0	864.1	11.9	-5.0	28.9	1054.1	658.3	278.2	7.2	1.000254
5000.0	848.5	10.9	-5.4	31.3	1038.8	657.1	276.9	8.3	1.000251
5500.0	832.9	9.4	-5.4	34.6	1025.0	655.5	276.0	9.5	1.000248
6000.0	817.7	8.0	-5.5	37.9	1011.3	653.8	275.2	10.7	1.000245
6500.0	802.7	6.5	-5.7	41.2	997.9	652.1	274.5	11.9	1.000242
7000.0	788.0	5.1	-6.0	44.5	984.7	650.5	270.7	19.3	1.000239
7500.0	773.5	3.9	-6.6	45.4	971.0	649.0	269.0	26.7	1.000234
8000.0	759.1	2.9	-8.7	41.9	956.3	647.5	270.5	31.4	1.000229
8500.0	745.0	1.5	-9.4	44.6	944.1	646.9	272.1	35.6	1.000225
9000.0	731.0	1.1	-13.3	32.9	927.4	645.6	274.8	39.2	1.000218
9500.0	717.3	1.2	-19.9	19.0	910.3	645.5	277.9	42.4	1.000209
10000.0	703.8	.1	-22.2	16.7	896.8	644.2	280.6	45.6	1.000205
10500.0	690.6	-.6	-23.7	15.4	882.3	643.3	282.9	48.4	1.000201
11000.0	677.4	-1.5	-24.7	15.0	868.2	642.3	284.2	50.1	1.000198
11500.0	664.4	-2.6	-25.8	15.0	855.2	640.9	284.6	50.1	1.000194
12000.0	651.7	-3.7	-26.5	15.0	842.3	639.6	285.2	49.0	1.000191
12500.0	639.2	-4.9	-27.4	15.0	829.7	638.2	286.2	47.6	1.000188
13000.0	626.9	-6.0	-28.4	15.0	817.2	636.9	287.4	48.1	1.000185
13500.0	614.9	-7.1	-29.3	15.0	805.0	635.5	288.3	49.8	1.000182
14000.0	603.1	-8.3	-30.2	15.0	793.0	634.1	290.3	52.1	1.000179
14500.0	591.5	-8.6	-30.6	14.9	778.8	633.7	293.3	55.1	1.000176
15000.0	580.1	-7.5	-30.0	14.5	760.6	635.0	300.6	61.0	1.000172
15500.0	568.9	-6.5	-29.4	14.2	742.8	636.3	305.0	68.6	1.000168
16000.0	557.9	-6.3	-29.4	14.0	728.1	636.5	306.4	77.6	1.000165
16500.0	547.1	-6.9	-29.8	14.0	715.6	635.8	305.9	80.4	1.000162
17000.0	536.5	-7.5	-30.3	14.0	703.4	635.1	304.7	80.1	1.000159
17500.0	526.1	-8.7	-31.1	14.2	692.8	635.7	303.7	77.4	1.000157
18000.0	515.8	-10.0	-31.9	14.5	682.6	632.1	302.8	74.1	1.000154
18500.0	505.8	-11.3	-32.8	14.8	672.5	630.6	300.5	75.3	1.000152
19000.0	495.8	-12.6	-33.7	15.1	662.7	628.9	297.9	78.8	1.000150
19500.0	485.9	-14.0	-34.6	15.5	653.1	627.2	295.4	82.4	1.000147
20000.0	476.2	-15.5	-35.6	15.8	643.6	625.4	292.9	85.7	1.000145
20500.0	466.6	-15.9	-36.6	16.2	634.3	625.7	290.7	89.1	1.000143
21000.0	457.3	-18.4	-37.6	16.5	625.1	621.9	289.6	90.6	1.000141
21500.0	448.2	-19.8	-39.6	16.9	616.1	620.2	288.0	88.3	1.000139
22000.0	439.1	-21.1	-39.5	17.3	606.6	618.5	287.0	86.1	1.000136
22500.0	430.9	-22.4	-40.3	17.6	597.3	617.0	286.6	82.9	1.000134
23000.0	421.2	-23.7	-41.2	18.0	588.0	615.4	286.1	80.8	1.000132

STATION ALTITUDE 5989.00 FEET MSL
10 DEC. 83 0815 HRS MST
ASCENSION NO. 618

UPPER AIR DATA
3440020618
WHITE SANDS

TABLE 6 Con't

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
23500.0	412.5	-24.9	-42.0	18.4	578.8	615.8	285.2	83.5	1.000130
24000.0	404.8	-26.2	-42.9	18.8	569.8	612.3	284.4	85.3	1.000128
24500.0	395.6	-27.5	-43.8	19.3	561.0	610.6	283.6	86.2	1.000126
25000.0	387.2	-29.0	-44.7	20.0	552.4	608.8	283.0	86.1	1.000124
25500.0	379.1	-30.4	-45.7	20.6	543.9	607.0	282.6	85.6	1.000122
26000.0	371.1	-31.8	-46.6	21.3	535.6	605.2	282.7	86.5	1.000120
26500.0	363.2	-33.3	-47.6	21.9	527.4	603.4	282.9	88.0	1.000118
27000.0	355.4	-34.3	-48.5	22.0	518.4	602.1	283.3	91.9	1.000116
27500.0	347.8	-35.2	-49.3	22.0	509.3	600.9			1.000114
28000.0	340.3	-35.6	-49.6	22.0	499.0	600.5			1.000112

STATION ALTITUDE 5989.00 FEET MSL
10 DEC. 83 0815 HRS MST
ASCENSION NO. 618

MANDATORY LEVELS
3440020618
WHITE SANDS

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

TABLE 7

PRESSURE MILLIBARS	GEOPOTENTIAL FEET	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT CENTIGRADE	REL. HUM. PERCENT	WIND DATA DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS
850.	4947.	11.0	-5.5	31.	277.1	8.2
800.0	6592.	6.3	-5.7	42.	273.5	13.3
750.0	8314.	1.9	-9.1	44.	271.6	34.1
700.0	10134.	-.2	-22.9	16.	281.3	46.4
650.0	12067.	-3.9	-26.6	15.	285.3	48.7
600.0	14121.	-8.6	-30.5	15.	291.1	52.9
550.0	16344.	-6.8	-29.7	14.	306.3	80.6
500.0	18764.	-12.0	-33.3	15.	299.0	77.3
450.0	21371.	-19.5	-38.4	17.	288.2	88.8
400.0	24201.	-26.8	-43.3	19.	284.0	85.7
350.0	27306.	-35.1	-49.1	22.		

STATION ALTITUDE 4051.37 FEET MSL
10 DEC. 83 0915 HRS MST
ASCENSION NO. 179

SIGNIFICANT LEVEL DATA
34401B0179
LC-37

GEODETIC COORDINATES
32.40175 LAT DEG
106.31232 LON DEG

TABLE 8

PRESSURE MILLIBARS	GEOPOTENTIAL ALTITUDE MSL FEET	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT DEGREES CENTIGRADE	REL.HUM. PERCENT
876.5	4051.4	12.2	-1.0	40.0
871.2	4280.8	12.1	-6.3	27.0
850.0	4955.3	9.9	-6.0	32.0
810.8	6234.5	6.1	-6.1	41.0
771.7	7555.8	2.3	-6.0	54.0
752.4	8225.5	.0	-9.2	50.0
730.7	8973.6	.0	-9.9	47.0
736.7	8780.5	-.1	-13.0	37.0
720.9	9353.9	3.0	-21.1	15.0
700.0	10135.6	1.2	-22.5	15.0
657.9	11761.5	-2.4	-26.2	14.0
653.2	11948.5	-2.4	-25.4	15.0
634.4	12707.2	-4.3	-27.7	14.0
603.6	13996.5	-4.0	-27.5	14.0
550.9	16347.8	-7.9	-31.4	13.0
500.0	18797.0	-13.9	-34.8	15.0
468.7	20398.9	-18.0	-37.0	17.0
400.0	24220.5	-27.9	-42.9	22.0
364.5	26396.5	-32.6	-46.6	23.0
357.6	26839.1	-33.2	-46.7	24.0
355.5	26975.7	-32.2	-46.3	23.0
344.2	27724.8	-33.0	-46.9	23.0
337.6	28172.1	-34.0	-47.8	23.0

STATION ALTITUDE 4051.37 FEET MSL
10 DEC. 83 0915 HRS MST
ASCENSION NO. 179

UPPER AIR DATA
3440180179
LC-37

GEODETIC COORDINATES
32.40175 LAT DEG
106.31232 LONG DEG

TABLE 9

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
4051.4	878.5	12.2	-1.0	40.0	1069.9	656.9	50.6	4.1	1.000265
4500.0	864.3	11.4	-6.2	28.6	1056.4	657.7	9.5	3.0	1.000253
5000.0	848.6	9.8	-6.6	32.3	1043.1	655.8	323.6	4.1	1.000251
5500.0	833.1	8.3	-5.9	35.8	1029.4	654.1	304.4	6.5	1.000248
6000.0	817.8	6.8	-6.1	39.3	1015.9	652.4	295.9	9.2	1.000245
6500.0	802.8	5.3	-6.0	43.6	1002.4	650.7	288.9	13.1	1.000242
7000.0	787.9	3.9	-5.9	48.5	988.9	649.1	285.1	17.1	1.000240
7500.0	773.3	2.5	-6.0	53.5	975.6	647.4	280.2	21.1	1.000237
8000.0	758.8	.8	-8.1	51.3	963.5	645.3	276.6	25.3	1.000231
8500.0	744.6	.0	-9.6	48.2	948.2	644.3	273.1	34.9	1.000226
9000.0	730.6	1.1	-15.1	28.6	927.2	645.5	279.7	46.5	1.000216
9500.0	716.9	2.7	-21.3	15.0	905.0	647.2	287.7	47.8	1.000207
10000.0	703.5	1.5	-22.3	15.0	891.9	645.8	291.6	49.9	1.000204
10500.0	690.3	.4	-23.3	14.8	878.7	644.5	292.2	52.3	1.000200
11000.0	677.3	-.7	-24.5	14.5	865.6	643.2	292.6	54.2	1.000197
11500.0	664.5	-1.8	-25.6	14.2	852.8	641.9	292.4	54.5	1.000194
12000.0	651.9	-2.5	-25.6	14.9	838.8	641.0	292.5	54.9	1.000191
12500.0	639.5	-3.8	-27.1	14.3	826.7	639.5	295.1	56.4	1.000188
13000.0	627.3	-4.2	-27.7	14.0	812.3	639.0	297.4	58.0	1.000184
13500.0	615.3	-4.1	-27.6	14.0	796.4	639.1	299.9	60.0	1.000181
14000.0	603.5	-4.0	-27.5	14.0	780.9	639.3	303.0	63.0	1.000177
14500.0	591.9	-4.8	-28.3	13.8	768.2	638.3	305.7	66.2	1.000174
15000.0	580.5	-5.7	-29.2	13.6	755.8	637.3	308.3	69.5	1.000171
15500.0	569.3	-6.5	-30.0	13.4	743.6	636.3	308.1	72.9	1.000168
16000.0	558.4	-7.3	-30.8	13.1	731.5	635.3	307.4	76.3	1.000165
16500.0	547.6	-8.3	-31.6	13.1	720.0	634.1	306.8	79.7	1.000163
17000.0	536.9	-9.5	-32.3	13.5	709.2	633.7	305.9	82.9	1.000160
17500.0	526.3	-10.7	-33.0	13.9	698.5	631.2	304.1	85.5	1.000158
18000.0	516.0	-11.9	-33.7	14.3	688.0	629.7	302.4	88.2	1.000155
18500.0	505.9	-13.2	-34.4	14.8	677.7	628.2	300.6	90.6	1.000153
19000.0	495.9	-14.4	-35.1	15.3	667.6	626.7	299.6	90.3	1.000150
19500.0	486.0	-15.7	-35.8	15.9	657.5	625.2	298.3	90.1	1.000148
20000.0	476.3	-17.0	-36.4	16.5	647.6	623.6	296.6	89.3	1.000146
20500.0	466.7	-18.3	-37.1	17.1	637.8	622.0	294.2	88.0	1.000143
21000.0	457.2	-19.6	-37.9	17.8	627.9	620.4	291.8	88.1	1.000141
21500.0	447.8	-20.9	-38.6	18.4	618.2	618.9	289.4	89.5	1.000139
22000.0	438.6	-22.1	-39.4	19.1	608.6	617.3	287.4	90.6	1.000137
22500.0	429.6	-23.4	-40.1	19.7	599.2	615.7	285.8	91.3	1.000135
23000.0	420.8	-24.7	-40.9	20.4	590.0	614.1	284.6	92.3	1.000132
23500.0	412.1	-26.0	-41.7	21.1	580.9	612.5	283.8	93.6	1.000130

STATION ALTITUDE 4051.37 FT SL
10 DEC. 83 0915 HRS MST
ASCENSION NO. 179

UPPER AIR DATA
3440180179
LC-37

TABLE 9 Con't

GEODETIC COORDINATES
32.40175 LAT DEG
106.31232 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
24000.0	403.7	-27.3	-42.6	21.7	572.0	610.8	283.4	95.0	1.000128
24500.0	395.3	-28.5	-43.4	22.1	562.8	609.4	283.6	96.4	1.000126
25000.0	386.9	-29.6	-44.2	22.4	553.3	608.0	283.7	97.9	1.000124
25500.0	378.7	-30.7	-45.1	22.6	544.0	606.7	284.3	99.7	1.000122
26000.0	370.7	-31.7	-45.9	22.8	534.9	605.3	284.9	101.9	1.000120
26500.0	362.9	-32.7	-46.6	23.2	525.8	604.1	285.6	104.0	1.000118
27000.0	355.1	-32.2	-46.3	23.0	513.4	604.7			1.000115
27500.0	347.6	-32.8	-46.7	23.0	503.6	604.1			1.000113
28000.0	340.1	-33.6	-47.5	23.0	494.6	603.0			1.000111

STATION ALTITUDE 4051.37 FEET MSL
10 DEC. 83 0915 HRS MST
ASCENSION NO. 179

MANDATORY LEVELS
3440180179
LC-37

GEODETIC COORDINATES
32.40175 LAT DEG
106.31232 LON DEG

TABLE 10

PRESSURE (GEOPOTENTIAL)		TEMPERATURE		REL. HUM.	WIND DATA	
		AIR	DEWPOINT	PERCENT	DIRECTION	SPEED
MILLIBARS	FEET	DEGREES CENTIGRADE			DEGREES(TN)	KNOTS
850.0	4952.	9.9	-6.0	32.	326.5	3.9
800.0	6589.	5.1	-6.0	45.	288.0	13.8
750.0	8302.	.0	-9.3	49.	274.3	31.0
700.0	10124.	1.2	-22.5	15.	291.7	50.5
650.0	12063.	-2.7	-25.8	15.	292.9	55.1
600.0	14135.	-4.3	-27.7	14.	303.8	63.9
550.0	16369.	-8.0	-31.5	13.	306.9	78.9
500.0	18771.	-13.9	-34.8	15.	300.1	90.4
450.0	21362.	-20.5	-38.4	18.	290.0	89.2
400.0	24180.	-27.9	-42.9	22.	283.5	95.6
350.0	27288.	-32.6	-46.6	23.		

STATION ALTITUDE 3989.00 FEET MSL
10 DEC. 83 1004 HRS MST
ASCENSION NO. 019

SIGNIFICANT LEVEL DATA
3440020619
WHITE SANDS

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

TABLE 11

PRESSURE MILLIBARS	GEOPOTENTIAL ALTITUDE MSL FEET	TEMPERATURE AIR DEGREES	TEMPERATURE DEWPOINT CENTIGRADE	REL.HUM. PERCENT
881.4	3989.0	14.8	-.9	34.0
874.1	4219.6	14.1	-4.6	27.0
850.0	4990.6	11.9	-4.7	31.0
730.2	9077.2	.0	-8.7	52.0
711.6	9755.9	-.4	-15.0	32.0
700.0	10187.9	-.1	-18.2	24.0
667.5	11436.7	-.7	-23.3	16.0
630.7	12920.9	-2.1	-25.2	15.0
594.4	14467.6	-2.4	-25.4	15.0
554.4	17214.7	-7.9	-30.6	14.0
500.0	18899.4	-12.8	-32.1	18.0
461.3	20897.4	-18.7	-34.6	23.0
419.6	23192.6	-24.9	-35.8	43.0
400.0	24335.4	-26.6	-38.9	30.0
357.9	26939.0	-33.6	-44.8	31.0
351.1	27381.2	-34.5	-45.0	33.0

UPPER AIR DATA

STATION ALTITUDE 3989.0 FEET MSL
10 DEC. 83 1004 HRS MST
ASCENSION NO. 019

34400200619
WHITE SANDS

GEODETIC COORDINATES
32.4004 LAT DEG
106.37033 LO. DEG

TABLE 12

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
3989.0	981.4	14.4	-.9	34.0	1063.7	661.4	260.0	6.0	1.000263
4000.0	981.1	14.8	-1.1	33.7	1063.4	661.6	260.4	6.1	1.000263
4500.0	965.3	13.3	-4.6	28.5	1050.3	660.0	272.7	9.2	1.000254
5000.0	949.7	11.9	-4.7	31.0	1036.5	656.3	278.6	12.6	1.000251
5500.0	934.1	10.4	-4.9	33.6	1022.7	656.7	282.0	16.0	1.000248
6000.0	918.7	9.0	-5.2	36.2	1009.0	655.0	284.1	19.5	1.000245
6500.0	903.6	7.5	-5.6	38.8	995.6	653.3	282.5	21.1	1.000241
7000.0	888.8	6.0	-6.1	41.3	982.4	651.6	281.3	22.5	1.000238
7500.0	874.3	4.6	-6.6	43.9	969.4	649.6	281.7	22.3	1.000234
8000.0	860.0	3.1	-7.2	46.5	956.6	648.1	282.4	22.4	1.000231
8500.0	846.0	1.7	-7.9	49.0	944.0	646.4	286.0	26.4	1.000227
9000.0	832.3	.2	-8.5	51.6	931.6	644.7	289.0	30.5	1.000224
9500.0	818.8	-.2	-12.3	39.5	916.1	644.0	292.0	35.3	1.000216
10000.0	805.0	-.2	-16.7	27.5	899.1	643.9	293.7	39.5	1.000209
10500.0	791.7	-.2	-19.3	22.0	882.4	643.8	292.6	44.0	1.000203
11000.0	778.7	-.5	-21.3	18.8	866.6	643.5	288.7	48.9	1.000199
11500.0	765.9	-.8	-23.4	16.0	851.2	643.1	288.2	50.2	1.000194
12000.0	753.3	-1.2	-24.0	15.6	836.5	642.6	290.4	52.8	1.000191
12500.0	740.9	-1.7	-24.7	15.3	822.1	642.0	293.1	54.7	1.000187
13000.0	728.8	-2.1	-25.2	15.0	807.8	641.5	297.7	56.2	1.000184
13500.0	716.9	-2.2	-25.3	15.0	792.8	641.4	303.4	57.8	1.000181
14000.0	705.1	-2.3	-25.4	15.0	778.0	641.3	306.6	61.4	1.000177
14500.0	693.7	-2.5	-25.5	15.0	763.7	641.1	308.3	66.0	1.000174
15000.0	682.3	-3.5	-26.4	14.8	751.8	639.9	309.7	70.7	1.000171
15500.0	671.1	-4.5	-27.4	14.6	740.2	638.7	309.1	73.6	1.000168
16000.0	660.1	-5.5	-28.3	14.4	728.7	637.5	307.6	75.7	1.000165
16500.0	649.4	-6.5	-29.3	14.3	717.4	636.3	306.2	77.8	1.000163
17000.0	638.9	-7.5	-30.2	14.1	706.3	635.1	304.6	78.5	1.000160
17500.0	628.4	-8.7	-30.8	14.7	695.9	633.6	302.6	78.2	1.000158
18000.0	618.1	-10.2	-31.2	15.9	686.1	631.9	301.0	78.0	1.000155
18500.0	607.9	-11.6	-31.7	17.1	676.4	630.1	299.6	76.6	1.000153
19000.0	598.0	-13.1	-32.2	18.3	666.9	628.3	298.2	74.7	1.000151
19500.0	588.0	-14.6	-32.7	19.5	657.3	626.5	296.8	73.0	1.000149
20000.0	578.3	-16.0	-33.4	20.8	647.9	624.8	295.1	73.7	1.000146
20500.0	568.8	-17.5	-34.0	22.0	638.6	623.0	293.7	77.5	1.000144
21000.0	559.4	-19.0	-34.4	23.0	629.4	621.2	292.9	83.0	1.000142
21500.0	550.0	-20.3	-33.9	28.3	619.6	619.5	291.7	83.1	1.000140
22000.0	540.8	-21.7	-33.7	32.6	610.4	617.9	290.2	79.0	1.000138
22500.0	531.8	-23.0	-33.6	37.0	601.2	616.2	288.3	74.3	1.000136
23000.0	522.9	-24.4	-33.7	41.3	592.1	614.6	285.6	71.0	1.000134

STATION ALTITUDE 5989.00 FT MSL
10 DEC. 83 1004 HRS MST
ASCENSION NO. 019

UPPER AIR DATA
3440020619
WHITE SANDS

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

TABLE 12 Con't

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
23500.0	414.2	-25.4	-35.1	39.5	582.2	613.3	262.6	70.8	1.000132
24000.0	405.6	-26.1	-37.3	33.8	571.9	612.4	281.6	78.9	1.000129
24500.0	397.2	-27.0	-39.3	30.1	562.1	611.2	280.8	85.7	1.000126
25000.0	388.8	-28.4	-40.4	30.3	553.3	609.5	280.2	88.7	1.000124
25500.0	380.6	-29.7	-41.5	30.4	544.0	607.9	279.7	91.8	1.000122
26000.0	372.5	-31.1	-42.7	30.6	536.0	606.2	278.3	87.2	1.000120
26500.0	364.7	-32.4	-43.8	30.8	527.7	604.5	276.8	82.5	1.000118
27000.0	357.0	-33.7	-44.8	31.3	519.3	602.8			1.000116

STATION ALTITUDE 3989.00 FEET SL
10 DEC. 83 1004 HRS MST
ASCENSION NO. 019

MANDATORY LEVELS
344002019
WHITE SANDS

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

TABLE 13

PRESSURE	GEOPOTENTIAL	TEMPERATURE		REL.HUM.	WIND DATA	
		AIR	DEWPOINT	PERCENT	DIRECTION	SPEED
MILLIBARS	FEET	DEGREES CENTIGRADE			DEGREES(TN)	KNOTS
850.	4987.	11.9	-4.7	31.	278.5	12.5
800.0	6637.	7.2	-5.7	39.	282.1	21.5
750.0	8363.	2.1	-7.7	46.	285.2	25.3
700.0	10178.	-.1	-18.2	24.	294.0	40.8
650.0	12120.	-1.4	-24.2	16.	291.1	55.3
600.0	14206.	-2.4	-25.4	15.	307.4	65.3
550.0	16456.	-6.4	-29.2	14.	306.3	77.7
500.0	18873.	-12.8	-32.1	18.	298.5	75.1
450.0	21471.	-20.3	-35.9	28.	291.7	83.1
400.0	24293.	-26.6	-38.9	30.	281.0	84.3

END

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